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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/576,315	05/22/2000	Takayuki Yanagisawa	54-209P	1809

2292 7590 04/21/2003

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EXAMINER
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VY, HUNG T

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 04/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/576,315	<b>Applicant(s)</b> YANAGISAWA ET AL.	
	<b>Examiner</b> Hung T. Vy	<b>Art Unit</b> 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-21 and 28-31 is/are rejected.
- 7) ☒ Claim(s) 4-9 and 22-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.



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**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                 | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)        | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: _____                                    |

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## DETAILED ACTION

1. In response to the amendment filed on 03/26/2003, claims 1-31 are pending in this application as a result of the addition of claims 30-31 and as a result of the cancellation of claim 5.

### Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 10 -18, 20 and 28-31 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Shih, patent No. 5,684,812 in view of Sasser, patent No. 4,677,639 or in view of Patel et al., patent No. 5,923,695.

Regarding to claims 1,2,10 -11,16-17 and 30-31, Shih disclose a self-compensating laser resonator comprising: a first reflecting apparatus (422) having a first reflecting surface and a second reflecting surface disposed at the a right angle to each other, a second reflecting apparatus (423) having a third reflecting surface and a fourth reflecting surface disposed at a right angle to each other, said second reflecting apparatus facing said first reflecting apparatus (422) such that the first through fourth reflecting surfaces are facing each other, and a laser medium (410); and a light source

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for exciting said laser medium (410) wherein a first ridge line formed by the intersection of said first and second reflecting surfaces, is substantially orthogonal to a second ridge line formed by the intersection of said third and fourth reflecting surface (See fig 9 below and see column 7, line 9-15). But Shih does not teach the laser medium provided between said first reflecting surfaces and said third reflecting surface. However, Sasser or Patel et al. disclose the laser medium (162 in Sasser or 12 in Patel et al.) that three reflections occur without the laser beam emitted therefrom passing through the laser medium (See Fig 1,2, 4, 6,10-13 in Sasser or Fig 3 in Patel et al.). With a first reflecting apparatus, the second reflecting and laser medium so in order to get the result, a person having ordinary skill in the art to modify to have laser beam (410) emanating from said laser medium travels along an optical path to said first reflecting surface and is successively reflected, along an optical path, by said first, second, third, fourth, second, first, fourth and third reflecting surfaces to again enter said laser medium.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify Shih to have laser medium wherein three reflections occur without the laser beam emitted therefrom passing through the laser medium as taught by Patel et al. or Sasser because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention.

Regarding to claim 3, Shih discloses a partially reflective mirror used for laser output is provided at any one of said first to fourth reflecting surfaces (See column 3, line 51-55).

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Regarding claims 12-15, 28 and 29, Sasser discloses a third reflecting apparatus (150) provided between said second and fourth reflecting surfaces, having a fifth reflecting surface (118) and a sixth reflecting surface (119) disposed parallel to, and facing away from, each other (see column 9, line 59 - 6, column 10, line 15 -38 and Fig.9)

Regarding claims 18 and 20, Sasser discloses a first reflecting apparatus and second reflecting apparatus each comprise a prism (172,173) having two reflecting surfaces disposed at right angles to each other and an incident surface of the laser beam (Fig. 10).

4. Claim 19, 21 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Sasser, U.S. patent No. 4,677,639 in view of Victor J. Norrls, Jr., U.S. Patent 6,624,531.

Regarding to claim 19 and 21, Sasser discloses a self-compensating laser resonator comprising a first prism (172) having first (176) and second reflecting surfaces (177) disposed at right angles to each other and a first incident surface (178) of the laser beam, a second prism (173) facing said first prism and having third (1191) and fourth reflecting surfaces (192) disposed at right angles to each other and a second incident surface (1193) of the laser beam, and comprising a ninth two-sided reflecting surface (118,119) on an optical path of the laser beam incident on the second incident surface, a laser medium (162) provided between said first and third reflecting surface; and a light source (163) for exciting said laser medium (162), but Sasser does not disclose the ridge lines of the two prisms are orthogonal. However, Victor J. Norrls, Jr discloses two prism (15 and 17) reflecting apparatus are orthogonal (See Fig 1). With

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the same structure as two prism and laser medium, in order to get the same result, a person having ordinary skill in the art to modify to have a laser beam emanating from the laser medium and traveling toward said first reflecting surface is successively reflected by the first, second, third, fourth, second, first, ninth two-sided, first, second, fourth, third, second and first reflecting surfaces to again enter the laser medium, passes through the laser medium, and is further successively reflected by the third, fourth, ninth two-sided, fourth and third reflecting surfaces to once again enter the laser medium.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the self-compensating laser resonator of Sasser to have the ridge lines of the two prisms are orthogonal as that of Victor J. Norris, Jr., because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of, but further to obtain the best result, the invention of Sasser.

#### **Allowable Subject Matter**

5. Claims 4-9 and 22-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, since the prior art of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed

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a self-compensating laser resonator semiconductor wherein laser beam contains a P-polarization and an S polarization component, having an isolator and a seeder light.

The following is a statement of reason for the indication of allowable subject matter'.

Claims 4-9 and 22-27 are considered allowable since the prior made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed limitations. Shih (U.S. Patent No. 5,684,812) and Sasser(U.S. Patent No. 4,677,639), taken individually or in combination, do not teach the claimed invention having an isolator allowing laser beam having a P-polalarization component and a Spolarization component to pass in only one direction, and Seeder light.

### **Citation of Pertinent References**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The patent to Hobart et al. disclose Hight Power Laser With Focusing Mirror Sets, U.S. Patent No. 5,052,017.

The patent to Opower et al. disclose Laser System, U.S. Patent No. 5,936,993.

The patent to Klingel, Hans et al. disclose Hight Frequency Folded Cross-Flow Gas Laser with Approved Gas Flow Characteristics and Method for Producing Laser Beam Using Same, U.S. Patent No. 4,757,511.

### Response to Arguments

7. Applicant's arguments with respect to claim 1-3, 11-21 and 28-31 have been considered (See detail on reject 103) but are moot in view of the new ground(s) of rejection.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung VY whose telephone number is (703) 605-0757. The examiner can normally be reached on Monday-Friday 8-30 am - 5-30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's




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supervisor, Paul IP can be reached on (703) 308-3098. The fax numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 3080956.

Hung T. Vy  
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April 15, 2003